




# Bharathiar University

State University | "A<sup>++</sup>" Grade by NAAC | 46<sup>th</sup> Rank in MoE-NIRF  
Maruthamalai Road, Coimbatore, Tamil Nadu - 641 046.

<b>Dr N JEYAKUMAR</b> Professor and Head Department of Bioinformatics Bharathiar University  Tamil Nadu <b>E-mail:</b> n.jeyakumar@buc.edu.in <b>Phone:</b> 9443494336 <b>Office Number:</b>	
<b>Research Area</b> <ul style="list-style-type: none"><li>• Text Mining and Data Mining</li><li>• Database Development</li><li>• Application of Machine Learning and Artificial Intelligence in Biomedicine</li><li>• Integrative Computational Biology</li></ul>	<b>Courses Teaching</b> <ul style="list-style-type: none"><li>• Programming in C and C++</li><li>• Practical-II Computer Programming</li><li>• Perl and Python Programming for Bioinformatics</li><li>• Visual Basic .NET with RDBMS</li><li>• Practical-IV Biological Sequence Analysis and Computer Aided Drug Design</li><li>• Molecular Modelling</li><li>• Principles of Drug Discovery</li><li>• Bioinformatics Algorithm and Machine Learning</li><li>• Computer Programming for Cheminformatics</li><li>• Cheminformatics Database Design and Their Management</li><li>• Practical-I Computer Programming</li></ul>
<b>Research Experience:</b> 28	<b>Teaching Experience:</b> 28
<b>Research Credentials</b> (as on September 2025 – Source: Google scholar) H-index: 20                      Citations: 1614                      i10-index: 46	
<b>Patents :</b> Filed: 3	
<b>Publications</b> International Journals: 48                      National Journals: 2	
<b>Career</b> <b>Other Institutes</b> <b>1. Designation : Lecturer</b> Institution Name : Madurai Kamaraj University, Madurai Period : September 1996 - February 2008 <b>At Bharathiar University</b> <b>1. Designation : Professor and Head</b> Period : October 2015 - Till Date <b>2. Designation : Professor</b> Period : February 2014 - October 2015 <b>3. Designation : Associate Professor</b> Period : February 2011 - February 2014 <b>4. Designation : Reader</b> Period : February 2008 - February 2011	
<b>Education</b>	



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Dr N JEYAKUMAR , Professor and Head , Department of Bioinformatics

## B. Sc.

Subject : Physics  
Institution : Bishop Heber College  
Affiliated University : Bharathidasan University  
Year of Award :

## M. Sc.

Subject : Physics  
Institution : Annamalai University  
Affiliated University : Annamalai University  
Year of Award :

## PG Diploma

Subject : Computer Application  
Institution : Bharathidasan University  
Affiliated University : Bharathidasan University  
Year of Award :

## Ph. D.

Subject : Bioinformatics  
Institution : University of Ulster  
Affiliated University : University of Ulster  
Year of Award :

### Projects

#### National Level

Ongoing - completed - 6

### Research Guidance

#### Completed

Ph.D. - 15

#### On Going

Ph.D. - 6

### Institutional Responsibilities

#### Professor and Head

Period :Oct 2015 to Till date

Nature of Responsibility :My role as Professor and Head, Dept of Bioinformatics, for nearly 10 years help to get major funding such as FIST and to establish "High Resolution Graphics Facility" with state of-the-art servers and software for structure based drug discovery using computational methods. This facility helps major inter, intra department collaborations and publication in high impact journals. Further, establishment of smart class rooms and introduction job oriented courses such as Bioinformatics Algorithms and ML and MG, and periodic journal seminar, and guest lectures from industry personal helps students to get good academic records and placements. In addition, student help name MOTIF students involved in various extension activities such as inside-garden maintenances, blood donor, quizzes, and Pongal Vizha, NSS, Pooja Celebrations etc.

#### Director of CRTD

Period :Jul 2020 - Jun 2023

Nature of Responsibility :As the Director of CRTD, I established the first autonomous Centre in BU to manage extra-mural funding. With a budget of about ?2 cores, I developed a state-of-the-art 1800 sq. ft. research facility equipped with modern infrastructure and IT systems. I framed guidelines on par with IISc/IITs, secured statutory approvals, and streamlined processes through a single-window system for approvals and recruitment. Under my leadership, CRTD became a central hub for sponsored research and consultancy projects, ensuring efficiency, transparency, and rapid facilitation. This initiative positioned CRTD as a pioneer in research administration within the University.

#### Syndicate Member

Period :Nov 2016 - Nov 2019

Nature of Responsibility :The impact contribution as syndicate member includes 1) The implementation of project autonomy and CRDT centre help as one stop solution for easy utilization of project funds and send UC on time. 2) The regularized honorarium and travel-cost will help external experts and University staff working on University assigned duties in hassle free environment with proper-pay. 3) The Dean's increase



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**age limit will help to utilize the service of senior faculty till retirement after Chancellor's accent and implementation.**  
**VC committee member**

Period :Feb 2018 - Oct 2019

Nature of Responsibility :As a VC committee member I demonstrated both a depth and breadth of achievement in University administration for both faculty and staff welfare and infrastructure development. All the grievances related to 3 categories of staff working in the University teaching, non-teaching and temporary workers were sorted out and their long pending demands were cleared which helps the smooth function of University. The transparent, fair and quick administration help all University/College related file processing on-time and create a hassle free environment in University administration. In infrastructure development with new building approvals for 20 cores and ERP sanction and implementation of 2.5 cores and speedy file processing and use of Central funds such as PURSE, FIST and SAP and on time

**Programs organized and Green Campus imitative such as solar power have the impact on forthcoming NAAC and NIRF rankings.**

1. International Conference on Biosciences and Biotechnology (ICBB 2017) - )
2. International Webinar on Recent Trends In Computational Biology and Bioinformatics 2020 - )
3. Third National Conference on Computational Biology 2016 - )
4. Fourth National Conference on Computational Biology 2017 - )
5. Fifth National Conference on Computational Biology 2018 - )
6. Modern Drug Design Applications MOTIF 2018 - )
7. National Seminar on AI and Bioinformatics for Biology (MOTIF 2023) - )
8. National Seminar on Computational Mining and Integrative Omics for Biomedical Research (MOTIF 2025) - )

## Publications

### International Journals - 48

**48. Advancing brain tumor diagnosis: Deep siamese convolutional neural network as a superior model for MRI classification**

Brain?X, 3 (2), e70028 (July 2025)  
G Murugesan, P Nagendran, J Natarajan

**47. Radiogenomic-based prediction of genetic alterations in oncogenic signaling pathways in lung cancer**

Egyptian Journal of Medical Human Genetics, 26 (1), 77 (June 2025)  
P Jayachandran, G Murugesan, J Natarajan

**46. Radiogenomic Profiling for Survival Analysis in Gastric Cancer: Integrating CT Imaging, Gene Expression, and Clinical Data**

Molecular Imaging and Biology (January 2025)  
AR Nath, K Thenmozhi, J Natarajan

**45. Genotype–phenotype correlation in IBD: unveiling putative inhibitors for IL10RA and IRF5 variants—an in silico analysis**

Journal of Proteins and Proteomics, 15 (3), 509-522 (June 2024)  
TB Evthonis, G Samykannu, J Natarajan

**44. Gut metagenomic analysis of gastric cancer patients reveals Akkermansia, Gammaproteobacteria, and Veillonella microbiota as potential non-invasive biomarkers**

Genomics & Informatics, 22(1), 1 (May 2024)  
AR Nath, J Natarajan

**43. Integrated Bioinformatics Analysis Reveals ceRNA Triplet Related to Apoptosis in Gastric Cancer**

Medinformatics (May 2024)  
AR Nath, J Natarajan



## **42. Unraveling the Shared Genetic Elements Among COVID-19 and Epilepsy: A Computational and Bioinformatics Analysis**

Medinformatics (April 2024)  
P Nagendran, G Murugesan, J Natarajan

## **41. Molecular interaction and MD-simulations: investigation of Sizofiran as a promising anti-cancer agent targeting eIF4E in colorectal cancer**

In Silico Pharmacology, 12(1), 33 (April 2024)  
G Samykannu, N Mariyappan, J Natarajan

## **40. Identification of effect of gene mutations related to telomere maintenance in gastric cancer patients**

Medicine in Omics, 10, 100025 (March 2024)  
AR Nath, J Natarajan

## **39. Tree based models for classification of membrane and secreted proteins in heart**

Journal of Proteins and Proteomics (March 2024)  
S Charles, A Subeesh, J Natarajan

## **38. Identification of Key Gene Modules and Novel Transcription Factors in Tetralogy of Fallot Using Machine Learning and Network Topological Features**

Medinformatics, 1(1), 27-34 (October 2023)  
S Charles, J. Natarajan

## **37. Literature Based Discovery (LBD): Towards Hypothesis Generation and Knowledge Discovery in**

### **Biomedical Text Mining**

arXiv (October 2023)  
Balu Bhasuran, Gurusamy Murugesan, Jeyakumar Natarajan

## **36. DisGeReExT: A knowledge discovery system for exploration of disease gene associations through large scale literature wide analysis study**

Knowledge and Information Systems (KAIS), 65, 3463-3487, 2023 (May 2023)  
Balu Bhasuran, Jeyakumar Natarajan

## **35. SPP1, a potential therapeutic target and biomarker for lung cancer: functional insights through computational studies**

Journal of Biomolecular Structure and Dynamics, 42 (3), 1336-1351 (April 2023)  
Y Annadurai, M Easwaran, S Sundar, L Thangamani, ..., J. Natarajan

## **34. Transcriptomic meta-analysis reveals biomarker pairs and key pathways in tetralogy of fallot.**

Journal of Bioinformatics and Computational Biology, 20, 2240004-2240004 (August 2022)  
Sona Charles, J Sreekumar, Jeyakumar Natarajan

## **33. Leveraging big data bioinformatics approaches to extract knowledge from Staphylococcus aureus public omics data**

Critical Reviews in Microbiology, 49(3), 391-413 (April 2022)  
D Subramanian, J. Natarajan

## **32. A review on structural genomics approach applied for drug discovery against three vector-borne viral diseases: Dengue, Chikungunya and Zika**

Virus Genes, 58, 151-171 (April 2022)  
Shobana Sundar, Shanmughavel Piramanayagam, Jeyakumar Natarajan

## **31. Synthesis, In Vitro Cytotoxicity, and DFT Studies of Novel 2-Amino Substituted Benzonaphthyridines as PDK1 Inhibitors**

ChemistrySelect, 7, 13 (March 2022)  
Kolandaivel Prabha, Rajendran Satheeshkumar, Vesim Nasif, Jayapalan Saranya, Koray Sayin, Jeyakumar Natarajan, Chinnarasu Chandrasekar, KJ Rajendra Prasad



## 30. GalNAc-siRNA conjugates: Prospective tools on the frontier of anti-viral therapeutics

Pharmacological Research, 173, 105864 (November 2021)  
Lokesh Thangamani, Balamuralikrishnan Balasubramanian, Muruges Easwaran, Jeyakumar Natarajan, Karthika Pushparaj, Arun Meyyazhagan, Shanmughavel Piramanayagam

## 29. Probing intermolecular interactions and binding stability of antimicrobial peptides with beta-lactamase of *Klebsiella aerogenes* by comparing FDA approved beta-lactam drugs: a docking and molecular dynamics approach

Journal of Biomolecular Structure and Dynamics, 40, 13641-13657 (October 2021)  
Vijina Chakkyarath, Jeyakumar Natarajan

## 28. Screening of *Mycobacterium tuberculosis* genes as putative drug targets for treatment of HIV-TB and lung cancer-TB comorbidities: An in silico analysis

Gene Reports, 24, 101215 (September 2021)  
Shobana Sundar, Lokesh Thangamani, Shanmughavel Piramanayagam, Jeyakumar Natarajan

## 27. Multiscale Laplacian graph kernel combined with lexicosyntactic patterns for biomedical event extraction from literature

Knowledge and Information Systems, 63 (1), 143-73, 2021 (August 2021)  
Abdulkadhar S, Bhasuran B, Natarajan J

## 26. Integrated meta-analysis and machine learning approach identifies acyl-CoA thioesterase with other novel genes responsible for biofilm development in *Staphylococcus aureus*

Infection, Genetics and Evolution, 88, 104702, 2021 (June 2021)  
Subramanian. D , Natarajan J

## 25. Current Research and Applications of Meta-omics Stratagems in Bioremediation: A Bird's-Eye View

Journal of Applied Biotechnology Reports, 8(2), 109-115 (June 2021)  
Arockiyajainmary Michealsamy, Lokesh Thangamani, Gowdham Manivel, Praveen Kumar, Shobana Sundar, Shanmughavel Piramanayagam, Jeyakumar Natarajan

## 24. Integrated regulatory network based on lncRNA-miRNA-mRNA-TF reveals key genes and sub-networks associated with dilated cardiomyopathy

Computational Biology and Chemistry, 92, 107500 (June 2021)  
Sona Charles, Jeyakumar Natarajan

## 23. Analysis of Chromate Transporters in Bacterial Species for Cr(VI) Reduction Isolated from Tannery Effluent Contaminated Site of Dindigul District, Tamil Nadu, India

Geomicrobiology Journal, 38 (7), 598-606 (April 2021)  
Princy Selvakumar, Devika Subramanian, Jeyakumar Natarajan & Prabakaran Solai Ramatchandirane

## 22. Design, Synthesis and Evaluation of Antimicrobial Database-Derived Peptides Against Drug-Resistant Gram-Positive and Gram-Negative Pathogens

International Journal of Peptide Research and Therapeutics, 27(2), 1459-1468 (March 2021)  
Devika Subramanian, Vijina Chakkyarath, Santhosh Manikandan Kumaravel, Brindha Priyadarisini Venkatesan, Jeyakumar Natarajan

## 21. Integrated meta-analysis and machine learning approach identifies acyl-CoA thioesterase with other novel genes responsible for biofilm development in *Staphylococcus aureus*

Infection, Genetics and Evolution, 88, 104702 (March 2021)  
Subramanian. D , Natarajan J

## 20. A Long Short-Term Memory Deep Learning Network for MRI Based Alzheimer's Disease Dementia

### Classification

J Appl Bioinforma Comput Biol, 9(6), 2 (December 2020)  
Gnanasegar SM, Bhasuran B, Natarajan J



**19. Network analysis of MicroRNA transcripts revealed relevant MicroRNAs and gene candidates for angiogenesis in gastric cancer**

Gene Reports, 21, 100903 (October 2020)  
Nath AR, Natarajan J

**18. The potential role of procyanidin as a therapeutic agent against SARS-CoV-2: a text mining, molecular docking and molecular dynamics simulation approach**

Journal of Biomolecular Structure and Dynamics, 40(3), 1230-1245 (September 2020)  
Nikhil Maroli, Balu Bhasuran, Jeyakumar Natarajan, Ponmalai Kolandaivel

**17. Two way network construction and analysis of mRNA, miRNA and lncRNA reveals critical regulators and regulatory modules in cardiovascular diseases**

Genes & Genomics, 42, 855-67 (May 2020)  
Charles S, Natarajan J

**16. Salivary Biomarkers in Gastric Cancer: A Non-Invasive Biomarkers for Early Detection and Diagnostics**

Advances in Cancer Research & Clinical imaging, 2(5), 000548 (May 2020)  
Nath AR, Natarajan J

**15. Invitro And Insilico Analysis Of The Marine Seaweed-Derived Compound Fucoidan Against EMT Markers**

International journal of scientific & technology research, 9(4), 3159-3162 (April 2020)  
Ganapathy S, Shafna Asmy VS, Natarajan J, Selvaraj U, Thirugnanasambandam S

**14. hPP Corpus: A Tagged Biomedical Corpus for Automatic Extraction of Human Protein Phosphorylation for Understanding Cellular Functions**

Journal of Embryology & Stem Cell Research, 4(1) (April 2020)  
Raja, K., Subramanian. D, Abdulkadhar S Natarajan, J

**13. Molecular Mechanism of T-2 Toxin-Induced Cerebral Edema by Aquaporin-4 Blocking and Permeation**

Journal of chemical information and modeling, 59(11), 4942-58 (October 2019)  
Maroli N, Kalagatur NK, Bhasuran B, Jayakrishnan A, Manoharan RR, Kolandaivel P, Natarajan J, Kadirvelu K

**12. In silico characterization of B cell and T cell epitopes for subunit vaccine design of Salmonella typhiPgtE: a molecular dynamics simulation approach**

Journal of Computational Biology, 26(2), 105-16 (February 2019)  
Samykanu G, Vijayababu P, Antonyraj CB, Perumal P, Narayanan S, BasheerAhamed SI, Natarajan J

**11. Genomic analysis of RNA-Seq and sRNA-Seq data identifies potential regulatory sRNAs and their functional roles in Staphylococcus aureus**

Genomics, 111(6), 1431-1446 (October 2018)  
Subramanian, D., Bhasuran, B., Natarajan, J

**10. Mining protein phosphorylation information from biomedical literature using NLP parsing and Support Vector Machines**

Computer methods and programs in biomedicine, 160 (56-74), 2018 (September 2018)  
Raja, K., Natarajan, J

**9. Mining protein phosphorylation information from biomedical literature using NLP parsing and Support Vector Machines**

Computer methods and programs in biomedicine, 160, 56-74 (September 2018)  
Raja, K., Natarajan, J

**8. Substrate specificities in Salmonella typhi outer membrane protease (PgtE) from omptin family–An in silico proteomic approach**

Informatics in Medicine Unlocked, 1, 100237 (August 2018)  
Samykanu, G., Vijayababu, P., Natarajan, J



## 7. Automatic extraction of gene-disease associations from literature using joint ensemble learning

PloS one, 13(7), e0200699 (July 2018)  
Bhasuran, B., Natarajan, J

## 6. Text mining and network analysis to find functional associations of genes in high altitude diseases

Computational biology and chemistry, 75, 101-110 (May 2018)  
Bhasuran, B., Subramanian, D., Natarajan J

## 5. Distributed smoothed tree kernel for protein-protein interaction extraction from the biomedical literature

PloS one, 12 (11), e0187379, 2017 (August 2017)  
Murugesan, G., Abdulkadhar, S., Natarajan, J

## 4. HPLminer: A text mining system for building and visualizing human protein interaction networks and pathways

Journal of Biomedical Informatics, 54 (121-130), 2015 (June 2015)  
Subramani, S., Kalpana, R., Monickaraj, P.M. and Natarajan J

## 3. A hybrid named entity tagger for tagging human proteins/genes

Int. J. Data Mining and Bioinformatics, 10 (315-328), 2014 (August 2014)  
Raja, K., Subramani, S., and Natarajan, J.,

## 2. Template Filling in Text Mining

Encyclopedia of Systems Biology, 2013 (August 2013)  
Kalpana Raja, Suresh Subramani, Jeyakumar Natarajan

## 1. HomoKinase: A Curated Database of Human Protein Kinases

ISRN Comp. Biology, 2013 (August 2013)  
Subramani, S., Jayapalan, S., Kalpana, R., and Natarajan, J.,

## National Journals - 2

### 2. RNA-seq analysis reveals resistome genes and signalling pathway associated with vancomycin intermediate

#### Staphylococcus aureus

Indian journal of medical microbiology, 376, 173-185 (February 2021)  
Subramanian. D , Natarajan J

### 1. Deep Neural Network for the Automatic Classification of Vertebral Column Disorders

IITM Journal of Management and IT, 11(1), 22-25 (January 2020)  
Ramasamy M, Abdulkadhar S, Natarajan J

## Patents

### Filed - 3

1. 'D-NER' (Disease Named Entity Recognizer) 01-1970 7161/2022-  
CO/SW Jeyakumar N
2. 'GDMiner' (Gene-Disease association Miner) 01-1970 7163/2022-  
CO/SW Jeyakumar N
3. DisGeReEXT: Disease Gene Relation Extractor 01-1970 7160/2020-  
CO/SW Jeyakumar N

## Projects

### Completed - 6

1. Integrated meta-omics analysis to study the modulation of gut microbiota for better prognosis of Gastrointestinal disorders DBT 2807720.00 (June 2021 - May 2024)
2. Biomedical Literature Mining to Find Drug-targetable Pathways of Mycobacterium tuberculosis DBT 4314400.00 (September 2012 - August 2015)
3. Text Mining and Data Warehousing of Protein Kinases Relationships and Pathways Others 2009177.00 (September 2012 - September 2025)
4. Data Mining and Text Mining to Identify enzymes that are potential Therapeutic candidates for Cerebral edema and High- altitude Pulmonary edema DRDO-BU CLS Phase-II Programme 2000000.00 (February 2014 - February 2018)
5. Computational detection of novel micRNAs and their targets involved in the immune regulation of human and its association with autoimmune diseases ICMR 837000.00 (January 2013 - January 2016)



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6. Computational analysis for identifying disease targets and Biomarkers incancer and virtual screening of lead molecules RUSA 2.0 - BCTRC 1688000.00 (December 2020 - December 2022)